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Cyberspace: A world apart?

Diane Rowland
University of Wales,
Aberystwyth

... I'll tell you all my ideas about looking-glass House ... In another moment, Alice was through the glass and had jumped lightly down into the looking-glass room. ... she began looking about, and noticed that what could be seen from the old room was quite common and uninteresting but that all the rest was as different as possible ...

Through the Looking Glass and what Alice found there. Lewis Carroll 1872

1. Introduction

A brief history of the evolution of the relationship between computer technology and law reveals an uneasy mixture of the prophetic, the pragmatic and the perverse. The results of this uneasy liaison have been patchy and piecemeal and attempts to apply laws, rights and freedoms emanating from the physical world to the virtual world have not always produced a satisfactory outcome either conceptually or practically. In some areas, the response has been to create dedicated legislation, thus there are a whole host of statutes which criminalise aspects of computer crime, statutes have been enacted regulating the processing of data and, more recently, attempts have been made to control access to the Internet itself. [1] In other areas of law there have been amendments to or adaptation of existing concepts and provisions; the commercial world has had to grapple with digital signatures, provisions on child pornography have been amended to include a "pseudo-photograph" [2] to take account of the growing use of the Internet for the dissemination of such material. On the other hand in relation to some branches of law, such as defamation, the only option appears to be to apply existing laws to the new medium. Most of these legal rules have their origins in particular physical jurisdictions and so espouse the standards, political decisions and culture which may be peculiar to those jurisdictions. In some legal disciplines, such as intellectual property, many branches of which are the subject of international conventions, and others such as data protection which is subject to an EC directive requiring harmonisation, there may be a greater consensus between jurisdictions. And yet a unique feature of this system is the global nature of computer networks transcending, indeed not even recognising physical jurisdictional boundaries.

In the physical world, society at all levels has evolved systems of regulation which govern the interactions between its members and with its governing body. These define not only how society controls itself or is controlled but include, inter alia, definitions and concepts of what the society finds acceptable. In the physical world there may be widespread agreement between societies on some issues reflected in statements of fundamental rights/freedoms but there may be great divergence on other issues. Consensus may lead to agreements which cross societal boundaries eg the European Convention on Human Rights, international declarations and conventions etc.: the opposite may lead, ultimately, to conflict. The legal system and enforcement process in a particular jurisdiction are necessary adjuncts to provide remedies for infringements of those rights. In the physical world this would be expected to be provided by the State - can there be any parallel in the decentralised virtual world? In the same way that laws which have evolved in one country cannot be easily transposed into another without taking account of the social, political and legal climate which has engendered that regulation, perhaps we should not expect to be able to apply laws from the physical world to the virtual world without experiencing some diffraction at the frontier.

Ultimately, it may be that it proves necessary to temper any theoretically appropriate solution with the pragmatic application of pre-existing legal rules. Law and society (both actual and virtual) need to react to actual and perceived threats arising from the fact that certain behaviour is facilitated by the unique properties of this medium. In such cases, the need for swift action may predicate the use of existing legal rules and concepts designed for radically different environments. Notwithstanding the traditional flexibility of the law in the face of technological change, the difficulties in applying the present law to this new medium forces a reconsideration of the rationale behind such regulation.

What is the purpose of regulating Cyberspace? Whose ideals are to be promoted? Do these differ from recognised objectives in the physical world? Is the manner in which legal rules arise in the physical world replicated in the virtual world? What is the influence of the virtual society (assuming the term is susceptible of definition) on the way on which such rules develop? Is it academically defensible and practically feasible to apply existing rules formulated for the physical world to the emergent virtual world? Possibly all of these questions can be summarised by just two - what is the law in Cyberspace and what do we want it to be?

2. The Concept of Cyberspace

The growth of a global network or networks of linked computers of which the Internet is a manifestation has made the concept of a virtual world a reality. The Internet itself being a network of networks has [3] the property that it is practically indestructible: attack from either external or internal agents, although creating a local effect, will not have any impact of the functioning of the whole. Such a structure is essentially decentralised causing particular problems for regulation and increasing the propensity for anarchy. Neither has the technology remained static waiting for the law, its more cautious partner to catch up. Computer technology today is a very different beast from that developed a few decades ago. Gone are the days when the analogy between a computer and a glorified calculator was a valid one. On such a model, the appropriate response of the law can be reduced to the difference in degree between the traditional mode of performing a task and the performance of that task by computer. Far from being merely a useful adjunct to assist in the performance of routine and laborious tasks (although it is still often used for such functions), the computer of the present day can provide access to another world or even worlds and increasing numbers of persons are spending time inhabiting such virtual worlds. Computer technology has thus advanced to the point where it has become much more difficult to argue that the difference between the physical and virtual worlds is one of degree, if indeed it ever was entirely this, it has become more clearly one of substance. The advent of multi-user domains and other devices has made it possible for people not only to search and inspect a virtual world but also to interact with it and to "meet" others there.

The term "cyberspace", first coined by William Gibson, [4] seems to have become accepted shorthand for the "virtual world". For convenience I have used and will continue to use this term although it eludes precise definition. Gibson himself said that it was:- "a consensual hallucination experienced daily by billions of legitimate operators in every nation, by children being taught mathematical concepts ... A graphic representation of data abstracted from the banks of every computer in the human system." It has to be remembered that this was in the context of a work which, despite the advances in technology since it was written, remains a novel of science fiction rather than science fact. Nonetheless, the use of the words "consensual" and "hallucination" together are suggestive of something which exists in the minds of those experiencing the phenomenon. Indeed, the world of daydreams and fantasies, as well as of more prosaic thought processes may provide a fitting analogy for activity in the virtual world of Cyberspace. In such a model and also in Gibson's original conception Cyberspace has no "location" as such. On the other hand, some have adopted a "geospatial analogy", Justice O'Connor in *Reno v ACLU* commented that "Cyberspace undeniably reflects some form of geography". [5] Such remarks are suggestive of the visualisation of a physical location for Cyberspace. Even some of the terminology in use such as "chat rooms", "bulletin boards" etc. evoke the notion of geographical location and some commentators have referred to e.g. the Internet as "a part of Cyberspace" [6] as if it were capable of division into regions. Such visualisation may serve a useful purpose in so far as it enables a comparison of the physical and the virtual but, necessarily, has its limitations. A good example is the passage of e-mail. Whether or not we understand the technicalities of "packet switching", it is tempting to imagine the despatch and delivery of e-mail as being akin to that of ordinary mail. Pursuing this analogy creates difficulties in the event of non-delivery (a concept which produces no such problems in relation to ordinary mail), minds conditioned by the physical world have difficulty visualising where the message could be once it has been despatched from our machine but has not been received at its destination after a reasonable time. Neither should we automatically equate our inabilities in this respect with a lack of understanding. Few of us really understand all the manifestations of the physical world. Nonetheless, we have sufficient comprehension or belief to enable us to make judgements in the course of our daily lives. Inevitably, these will be informed by the prevailing scientific and technological thought as it percolates into everyday life but our reactions are not exclusively based on either our awareness or our comprehension of

this information.

3. Characteristics of the Virtual Society

What are the characteristics of the "virtual society"? The use of "virtual" indicates something which is merely conceptual, as opposed to something with physical reality. Thus the reflection we see in a mirror is an example of a virtual image, notwithstanding our mental experience of it, the image has no physical manifestation, it remains essentially illusory. This is so even though, with the appropriate experiment, we can locate precisely in physical space where we perceive that image to be. So in one respect, the images we see "through the looking glass" reveal a virtual world. Unlike Alice though, we cannot cross this particular boundary and we have no direct influence on events in that virtual world, it is literally a reflection of the physical world.

In contrast, the user interface, in its widest sense, forms the boundary between the physical and virtual world of Cyberspace. Unlike the virtual world in the looking glass, this has become a world in which it is possible to influence events, to interact with others, to participate in a virtual society. This society, divested of the usual social groupings and territorial boundaries of the physical world may be equally accessible to all, regardless of constraints of geography, class and creed. [7] Many forms of discourse in the physical world are accompanied by significant barriers to participation, in the sense of the ability to contribute, even if access to the discourse as a passive reader or listener is relatively straightforward. In this respect, Internet communication can be viewed as an empowering device in which the barriers to participation are exactly the same for the active as for the passive participant. [8] Relationships may be defined or redefined independent of significant attributes which may either foster or impede relationships in the physical world such as race, wealth, status, etc. Denuded of such characteristics we may, if we wish reinvent ourselves and assume any persona we choose. Such apparent equality can be viewed, in theory, as creating a pure democracy but even this carries its own benefits and burdens. The obvious benefit is the possibility of a free trade in ideas stripped of the influence of the status of the individual responsible for the dissemination of those ideas. The inevitable burden is the potential for the abuse of that free trade.

4. The Community in Cyberspace

The fact that we are engaging in this debate is itself due to the developments in computer technology which have enabled the creation of "worlds that are indistinguishable from the real one coupled with the possibility of interacting in these worlds." [9] Many have now tried to establish whether virtual communities have an identity which differentiates them from physical communities, and the extent to which this factor may have a bearing on the evolution of legal rules and the emergence of norms. Thus Rheingold [10] has specifically highlighted the possibility of community formation in Cyberspace, and in particular how social groups may be refashioned within virtual communities. He even suggests that "people in virtual communities do just about everything people do in real life but we leave our bodies behind." [11] How does this come about? - participation in the virtual world can develop from one to one communication, such as e-mail, to one to many as in contributions to bulletin boards, news groups etc. These can begin to foster a sense of society if not community as such. Grabow [12] has given a definition of community which includes altruistic elements such as respect for the individual, regard for the truth and a sense of the common good. The common interest which provides the impetus for participation in newsgroups, for instance, or of joining a particular club or society in the physical world is not, of itself, indicative of the formation of community. Nonetheless, shared interests may lead to shared values and shared goals which may, in turn, lead eventually to community formation. In some instances, the relationships that develop could most accurately be described as penfriendships, but others are of a more public nature, rather like a club or society, whilst the latest advances have made virtual relationships of a more intimate nature a reality. In addition the growth of multi-user domains (MUDs) enable many to many interactions which, taking the physical world as a bench mark, appear to be one of the necessary attributes of a community. Neither do those who interact in the virtual world in this way need to maintain the same characteristics as their physical selves. Indeed it is open to one person to maintain a range of separate identities which can coexist in separate environments and create relationships with others engaging in the same pursuits. These factors may lead to the formation of dependent relationships which, if severed or abused, may cause trauma to the person in the physical world. [13]

On the other hand those who merely use devices such as e-mail or "surf the net" for the purposes of information retrieval are unlikely to experience or even find much evidence of a virtual community. This is itself revealing. Whilst even in the physical world we are free to a large extent to determine the exact limits of our participation and interaction in the societies in which we operate, we are unlikely to be able to avoid being

involved in a combination of one to one, one to many and many to many interactions/relationships in varying proportions. In the virtual world, on the other hand, we have more choice about our level of involvement and can be participative or not as we choose.

5. The role of custom in Cybercommunities

It has been suggested that a cyberspace community may well develop its own customs which are likely to be different from those in a physical community. [14] Historically custom has often played an important part in the development and definition of rules governing different communities and this can also have repercussions for enforcement of those rules. When a certain type of conduct has become accepted by participants in a practice, not only will it give rise to a social rule, but will also be accepted by those participants as a standard of assessment of what is acceptable in that community.

In principle, this is just as likely to occur in a "cybercommunity" and evidence of such emergent customs can be seen in the use of "Netiquette" and the accepted use of certain symbols such as ":-)" etc. There is also evidence within certain communities and "regions" of cyberspace of a growing relaxation of certain legal rules originating in the physical world. A particular example is the law relating to copyright. This is demonstrated by the growing number of web sites which specifically allow copies to be made with less constraint (but not necessarily no constraint) than would be the case under copyright law. In addition, there is a growing belief, most prevalent, perhaps, amongst those who espouse the notion that "information wants to be free" that copyright is inappropriate for the expression of ideas within a virtual world. On the other hand, many who use the new medium for publication of their work have the opposite view and take steps to remind readers of the continued application of the law of copyright. It appears that there is thus insufficient consensus to establish a custom, unless it is possible satisfactorily to differentiate separate and individual communities in Cyberspace to which different customs might pertain. How this could be done without the assistance of geographical or physical boundaries is a moot point. A virtual frontier seems to offer little help in this regard.

Another area of law in which the concept of community, in particular community standards, is of crucial importance is in the regulation of obscenity in the US and this will be discussed further in the next section.

Although there may be agreement over the content and nature of custom, a further issue is the point at which such customs becomes enforceable. It is clear that customs need to be widely accepted by the relevant community and well-established over a period of time before enforceability can be initiated. Cybertechnology moves very quickly - will it ever be possible for custom to gain the necessary pedigree for elevation to the status of rule?

6. Rights and Freedoms and the use of legal rules in Cyberspace

The application of legal rules to Cyberspace needs to address a mixture of issues. At the most fundamental level, the existence of these virtual world(s) is based on the mode of communication made possible by computer networks. The choice of the most relevant existing rules depends, therefore, in the first instance, on whether this form of communication can be regarded as analogous to speech or to the written word. Is e-mail for instance, akin to a letter, a postcard or a telephone call? The fact that, on the whole, it is accepted that copyright should apply is suggestive of written communication. Similarly, although there has been some debate over whether defamation on the Internet should constitute slander, it does not seriously seem to have been questioned that libel is the appropriate cause of action.

On the other hand, the District Court in *ACLU v Reno* [15] suggested that the Internet is a far more speech-enhancing medium than print and went on to refer to it as a "never-ending world-wide conversation". Whilst this may have been intended figuratively rather than literally, it is clear that, at its most interactive, the Internet can appear to participants, especially those engaged in many to many interactions, as having far more in common with oral communication. Indeed, it could also be said that the use of symbols such as ":-)" are intended to replicate the facial expressions which are otherwise absent from that conversation and by which a significant amount of meaning may be conveyed.

Given its status as a means of communication, one of the most important rights and freedoms associated with the virtual world is that of freedom of expression. Indeed, even in the physical world this is often placed at or near the top of some commentators hierarchies of rights, enabling it to fall easily within the concept of "rights

as trumps" using the terminology of Dworkin.

However, although freedom of expression is protected under many Constitutions and declarations of fundamental rights and freedoms, its scope and importance varies between different physical jurisdictions. In the US, free speech does often override other freedoms and interests as has been shown most recently in *Reno v ACLU*.^[16] In this case, the US Supreme Court found the Communications Decency Act, a statute enacted to prevent access by minors to indecent material on the Internet, to be unconstitutional on a number of grounds, one of which was the need to give effect to freedom of expression

The European Court of Human Rights has not, however, developed such a clear hierarchy of rights and in the UK, in particular, although the freedom is well-established in principle, it is not viewed as having such central importance and is more often linked exclusively with press and media freedom. The media, inevitably, have taken advantage of the opportunities and advantages offered by the Internet, but it is neither their only, nor their main vehicle, for the dissemination of text. Indeed, it would not be they, but the individual user, who would be most affected if access to this most participatory form of communication were to be restricted or denied.

The argument for freedom of information can be supported on many grounds: individual autonomy, the search for truth, the desirability of being able to contribute to political, social and moral debate. Proponents of the use of global computer networks as the ultimate vehicle for the dissemination of information will, undoubtedly, favour the utilitarian view that society will obtain the maximum benefit from allowing freedom of expression rather than permitting restriction and censorship on the basis that the "truth" is more likely to emerge from uninhibited discussion and argument. Nonetheless, even utilitarians will support and allow restrictions on the basis of identifiable harm. Thus utilitarian arguments can be used in support of control of obscenity and pornography if it is accepted that such works have no redeeming social merit. It is not the purpose of this paper to review the law in indecency/obscenity but rather to raise a few questions which may have particular relevance and pertinence to the virtual world.

Restrictions on freedom of expression may be accepted for a number of other reasons, including religious, racial and political extremism, contempt of court etc. Because of the widespread availability, although not necessarily immediate or obvious availability of pornography on the Internet, it is restrictions of freedom of expression on this ground which have been at the forefront of the application of existing legal rules. Even in the physical world, reasons for restricting access to such material are not always clearly articulated. Is it an issue of safeguarding public morals or protecting minors or to take into account some conflict with another interest? In a pluralist society, it is unlikely that there would be sufficient agreement over the appropriate standards to attempt the first of these whereas a liberal society would, in any case, see it as a matter of individual choice. If the rationale for intervention is based on a "harm" test, does this need to be objectively verifiable harm e.g. physical or psychological or could it equally be moral or ideological harm? How should any of this be applied to the virtual world - does the harm have to be experienced in the physical world or can we formulate some concept of harm in the virtual world itself ? ^[17]

In the US, some of these issues have been addressed by the formulation and application of "community standards". ^[18] As long as the relevant community is susceptible of definition then restrictions can be tailored to what is appropriate for that location. Thus what is acceptable in California need not be in Tennessee. ^[19] Given the previous discussion on cybercommunities, at first sight it appears that this reasoning could be applied to the virtual world. Although the notion of community in Cyberspace seems, prima facie, straightforward, this is deceptive. Does the virtual world consist of one community? or many? If many how can they be distinguished? The decision in *Reno v ACLU* ^[20] seems to assume the existence of only one huge Cybercommunity which is increasing in population by the minute. If that is the case, it is inevitably pluralist and consensus on appropriate community standards seems impossible.

On the other hand, intuitively, some users, at least, seem possible to assign to different types of cybercommunity but these will clearly not be "geographically" distinct or physically separated. In addition, although many "Netizens" may remain faithful to their own communities, the nature of the medium encourages a multitude of free spirits who roam between communities, unfettered by the considerations which would accompany similar "journeys" in the physical world, and may be attached to none.

Obscenity is defined rather differently in the UK as "that which is likely to deprave and corrupt". This imports an objective standard with no restriction on subject matter as such. This is clearly very much based on the harm principle but remains silent on how that might be assessed. It could be the case that certain sections of population, such as minors might show a greater tendency to be affected but this must surely be a question of fact and degree and the test seems no easier to apply to the virtual world than the previous one.

The right to privacy is also often considered to be placed in jeopardy in the virtual world. Privacy is a concept whose definition has been debated extensively. Is it place-oriented or property-based or merely the right to be left alone? Gavison suggests that it is related to our accessibility to others, to others' knowledge of us, to the extent to which others have physical access to us and to which we can be the subject to their attention. [21] With the exception of physical access, all of these seem equally relevant and applicable in a virtual world.

The extent to which privacy is important and the way in which it is defined is as much cultural and political as it is a legal construct and the form of privacy rights may vary. The concept of community thus again becomes relevant. A particular issue for the virtual world is whether or not it is possible to distinguish the public from the private. *Katz v US*, [22] a case of telephone tapping from a public phone box suggested that the right of privacy was intended to protect people rather than places. Applying this reasoning to the virtual world, the public/private distinction need not be so crucial.

It also seems to be an observed phenomenon that people behave differently in virtual worlds. They may assume a new identity or identities, which may protect their own privacy but may make it easier to invade the privacy of others. At the other extreme, many participants in the virtual world seem to become more naive and trusting than their counterparts in the physical world. It is not uncommon to see people revealing all the minutiae of their lives on their home pages, ranging from the details of their CV to personal information about family members and pastimes etc. It seems unlikely that most people would reveal such a wide range of information to anyone in the physical world except, perhaps, to their very closest friends. In the virtual world this information is available not just to a cosy little community but to the entire population of Cyberspace.

What effect might this have on these individuals' right to privacy, have they relinquished that right on the ground that they have voluntarily provided access to their personal information? The judgment in *Katz* shows that this could be one outcome and using such reasoning, a necessary antecedent for the right of privacy is an intention to keep certain matters private - "(w)hat a person knowingly exposes to the public even in his own home or office is not a subject of 4th Amendment protection ... but what he seeks to preserve as private, even in an area accessible to the public may be constitutionally protected." [23]

8. A model for the Governance of Cyberspace?

It is apparent that the law has experienced both conceptual and practical difficulties in applying existing legal rules to the virtual world of Cyberspace. Any successful model for the Governance of Cyberspace has to be able to resolve the anomalies of this mode of communication, is it speech or is it written? Perhaps the most satisfactory solution is to treat it as a method of communication sui generis. With regard to the protection of fundamental rights, Tribe has suggested that: "(t)he Constitution's core values, I'm convinced, need not be transmogrified, or metamorphosed into oblivion, in the dim recesses of cyberspace. But to say that they need not be lost there is hardly to predict that they will not be." [24] Implicit in this statement is a doubt that the law of the physical world is capable of automatic transcription to the virtual world. Is the virtual society so qualitatively different from the physical society as to invalidate reasoning by analogy? "Traditional" law depends frequently on a defined relationship between the parties, is this possible in Cyberspace? Would a more successful solution be found by treating Cyberspace as a separate jurisdiction. Can it be viewed as a world apart?

What are the objectives of the virtual society, how should its rules be established and defined and what is the basis for legal intervention if any? If the ultimate goal of the inhabitants of the virtual world is to achieve a free flow of information unfettered by censorship, then the teleological view will be that any steps necessarily incidental to the achieving of that objective will take precedence over the rights of individuals. This may mean that whereas freedom of expression may be balanced with the right to privacy in the physical world, freedom of expression would always "win" in the virtual world. To an extent this has been seen already in *Reno v ACLU*. [25] The virtual world may also present new rights issues, Chesebro and Bonsall expect "information discrimination to become a new human rights issue." [26]

How do we start to define an appropriate model for the governance of Cyberspace? To what extent do theories of rights developed in relation to the physical world have relevance to the virtual world? One justification for a continuum approach is that the virtual world is not an alternate universe having no impact and no relation to events in the physical world. It is evident that the worlds share certain similarities and also interact with each other. The extent of the similarity depends on the proximity of the activity engaged in to that of its physical counterpart. Reasoning by analogy may therefore serve some useful purpose provided we are careful to ensure the validity of the analogy. Where the worlds diverge most strongly, another model may be required. Should this be based on top-down or bottom-up regulation? The former may be necessary in the

face of externalities where others are affected by the behaviour, but the latter may produce the most flexible result and allow due importance to be accorded to developing custom and practice.

Some assistance may also be obtained by returning to first principles. The theory of natural rights has an ancient pedigree but, nevertheless, such rights are not immutable and can only derive authority from the attributes of a given society's nature and aspirations. If the society as a whole is not committed to the system of morality leading to those rights or cannot be forced to respect them, then rights produced by a natural law approach will be of little practical use. Whilst the first of these may be possible in the virtual world, although not necessarily probable, the latter seems to be practically impossible.

Notwithstanding his comment referred to earlier, Tribe advocates the continuum approach and would extend the application of the protection of fundamental rights and freedoms (specifically the US Constitution) from the physical world to the virtual world by the creation of a "27th amendment" [27] the purpose of which would be to make it clear that the Constitution applied irrespective of the technological medium in use. However this approach can surely only be valid if the difference between the physical and the virtual world is merely quantitative. Tribe, himself, has advocated the application of the principles of physics to constitutional law [28] and used the theories of Einstein and Heisenberg rather than Newton to describe observed features. If these two worlds do indeed have significantly different properties, then it is arguable that a continuum approach is unsatisfactory since, even if the basic tenets of the theories still hold, there may be discontinuity or diffraction at the boundary between the two. What is really needed is neither an Einstein nor a Newton, but the equivalent of a Stephen Hawking to create a unified model which would be equally applicable to the virtual and physical worlds.

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End Notes

[1] For example the Communications Decency Act 1996 in the US, the introduction of compulsory registration for service providers in Singapore and the "Fillon" amendment in France.

[2] Amendments made to the Protection of Children Act 1978 by the Criminal Justice and Public Order Act 1994.

[3] see e.g. the description in *Reno v ACLU* (1997) 138 L Ed 2d 874 at 884 (available at <http://www.epic.org/CDA/>)

[4] *Neuromancer* Gollancz 1984.

[5] (1997) 138 L Ed 2d 874 at 909, full text of the judgment also available at <http://www.epic.org/CDA/> 1.

[6] Trotter Hardy *The Proper Legal Regime in Cyberspace* (1994) 55 *University of Pittsburgh Law Review* 993.

[7] A point made forcibly by the US District Court of Pennsylvania in *ACLU v Reno*, available at <http://www.epic.org/CDA/>

[8] This is not to say that there are no barriers to participation. many of them are technical and consist of the requisite steps to access the relevant computer network. Some may also be psychological but whatever their origin, the barriers are not materially different for any class of participant.

[9] John L. Fodor *Human values in the Computer Revolution* chapter 19 in *Social and Ethical ffects of the Computer Revolution*, Joseph Migga Kizza (ed.) Mc Farland 1996.

[10] Howard Rheingold *The Virtual Community: Homesteading on the Electronic Frontier* p 3 Addison-Wesley 1993

[11] *ibid* at p. 3.

[12] Paul C. Grabow *La technique: an area of discourse for computers in society* Chapter 23 in *Social and ethical effects of the Computer Revolution* Joseph Migga Kizza (ed.) McFarland 1996.

[13] For a psychological assessment of the effect of the breakdown of relationships in Cyberspace see e.g. Sherry Turkle *Life on the Screen. Identity in the age of the Internet* Weidenfeld and Nicholson 1996.

[14] *Supra* n. 6

[15] US District Court of Pennsylvania 12 June 1996, full text available from <http://www.epic.org/CDA/>

[16] *supra* n. 5

[17] See e.g. Sherry Turkle *supra* n. 13

[18] *Miller v California* 413 US 15 (1973)

[19] *US v Thomas* 74 F 3d 701 (6th Cir 1995) on pornographic material posted to bulletin boards.

[20] *Supra* n 5

[21] Ruth Gavison *Privacy and the Limits of Law* (1980) 89 *Yale Law Journal* 421 at 423.

[22] (1967) 19 L Ed 2d. 576

[23] *ibid* at 582

[24] Laurence H. Tribe *The Constitution in Cyberspace The Humanist* Volume 51(5) Sept/Oct 1991 pp 15 - 21, available also at <http://www.sjgames.com/SS/tribe.html>

[25] *Supra* n. 5

[26] James W. Chesebro and Donald G. Bonsall *Computer Mediated Communication*. University of Alabama Press 1989

[27] *Supra* n. 24

[28] Laurence H. Tribe *The curvature of Constitutional Space: What lawyers can learn from modern physics*. (1989) 103 *Harvard Law Review* 1.

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